vised by some authors and may be useful in preventing postoperative sagging.

An alternate approach to the local brow lift is an elliptical excision in the temporal hair line with undermining and elevation of forehead skin. This technique requires more dissection and is less accurate in the final brow positioning than is the local resection. One obvious disadvantage of a local brow lift is the visible scar that results. With proper suture technique and satisfactory use of cosmetics and eyebrow pencil for cover-up, however, this drawback is minimal.

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Local Anesthesia of the Ear by Iontophoresis

LOCAL ANESTHESIA of the ear canal and tympanic membrane by iontophoresis is an effective and painless procedure. In the past, the application of topical solutions to obtain anesthesia has been disappointing. Injections of local anesthetics have been painful, particularly in children. Comeau and co-workers have revised Albrecht's method of iontophoresis so that it is an efficient means of anesthetizing the tympanic membrane for myringotomies and can be used for procedures involving the ear canal.

Iontophoresis is a process utilizing direct electrical current by which chemical agents such as epinephrine and lidocaine can be caused to migrate through intact skin. The ions in the anesthetic are positively charged and driven through the skin by the repelling action of the positive electrode (direct current). A fresh solution of 2 percent lidocaine (Xylocaine®) and 1:2000 epinephrine is used. Anesthesia of the tympanic membrane occurs in ten minutes.

The principal advantages of this technique are that the procedure is painless and much less bleeding occurs. The vertigo that occasionally occurs after Xylocaine® injection is avoided. This method of anesthesia is especially beneficial in myringotomies and in inserting collar-button tubes in children.

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Recurrent Laryngeal Nerve Section for Spastic Dysphonia

SPASTIC DYSPHONIA is a severe vocal disability in which a person speaks with excessively adducted vocal cords. The resulting weak phonation sounds tight, as if the patient were being strangled, and has also been described as laryngeal stutter. It is often accompanied by face and neck grimaces. In the past spastic dysphonia has been regarded as psychoneurotic in origin and has been treated with speech therapy and psychotherapy with disappointing results.

Because of laboratory and clinical observation that recurrent nerve paralysis retracts the involved vocal cord from the midline, it was proposed that deliberate section of the recurrent nerve would improve the vocal quality of patients with spastic dysphonia. In 72 patients the recurrent nerve has been sectioned after lidocaine (Xylocaine®)-induced temporary paralysis showed significant improvement in vocal quality. With nerve section in addition to postoperative speech therapy, approximately half of the patients have close to a normal but soft phonatory voice. In the rest there were varying degrees of improvement, but all, so far, have been pleased with the improvement in ease and quality of phonation and in reduction or elimination of face and neck grimaces. Two men have a breathy component in their phonatory voices, and one woman has variable pitch. In three patients spasticity has redeveloped 4 to 7 months postoperatively. In one of these the situation has been corrected by superior laryngeal nerve section.

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Daytime Sleepiness Caused by Nighttime Airway Obstruction

EXCESSIVE DAYTIME SLEEPINESS, especially in overweight men, can be caused by an intermittent airway obstruction during sleep. This sleep apnea syndrome has parallels with the better known but much less common pickwickian syndrome, and also can occur in children. The most important feature of this syndrome is that all of the patients we have encountered so far, and most of their physicians too, are completely unaware that

they have periodic obstructive episodes during their sleep. They notice only an increasing daytime lethargy, mental dullness, and a tendency to fall asleep in any routine or boring situation—while driving, during meetings, watching television and the like. In fact, the most common precipitating event leading to a referral to a sleep clinic is an automobile accident or several near misses because of sleepiness.

Snoring, usually loud and usually for several years, precedes other symptoms. Later on, pulmonary and systemic hypertension can develop. Children suffer in school performance, become enuretic, and have an increase in nightmares. In about a third of children and an occasional adult, the obstructive problem is related to very large tonsils. The most common cause, however, is an unexplained collapse of the hypopharyngeal muscles which occlude the airway. This obstruction is cyclic, lasting ten seconds to three minutes, and can recur as many as 800 times per night. Relief of the obstruction occurs with return of muscle tonus as the patient's level of arousal increases. However, because they rarely wake completely, they are never personally aware of the obstruction.

The final diagnosis can be made only by sleep polygraph recordings since this disorder must be distinguished from diaphragmatic apnea and narcolepsy. Tonsillectomy or tracheotomy, when symptoms warrant, are functionally curative.

In our experience, many physicians and most lay persons who encounter this syndrome only on a casual basis consider a tracheotomy a somewhat drastic treatment for daytime sleepiness. However, the patients themselves feel otherwise once freed of their obstructions. Not one patient has requested the tube be removed, including three physician patients.

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